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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,962	11/08/2000	Bernhard Hauer	49041	7018

7590 12/18/2002

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EXAMINER

WESSENDORF, TERESA D

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/674,962	HAUER ET AL.
	Examiner T. D. Wessendorf	Art Unit 1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 22 November 2002.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) 7-18 is/are withdrawn from consideration.

5) Claim(s) 6 is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-6 (not claims 1-16), Seq. ID. No. 2 in Paper No. 12 is acknowledged. The traversal is on the ground(s) that there is a special technical feature that links the inventions of Groups I-IX (PCT Rule 13.1-13.2) i.e., the peptide fragments of claims 1-6. The nucleic acid sequences of claims 8-10 code (sic, encode) for the special technical features, the peptide fragments. This is not found persuasive because claims 8-10 do not recite for a nucleic acid sequences that encode for said peptide fragments, rather only the functional language that a nucleic acid that encodes said peptide fragments. Thus, since nucleic acids and protein fragments differ in their basic structure and because of the degeneracy of the nucleic acid codon, hence, the inventions lack the argued special technical features.

The requirement is still deemed proper and is therefore made FINAL.

Claims 7-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 12.

***Specification***

The disclosure is objected to because of the following informalities: the statement at page 13, lines 30-32 is repeated at lines 36-38, ibid.

Appropriate correction is required.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors (typographical, grammatical and idiomatic). Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A). Claim 1 is confusing in the definition of each of the variables when one variable e.g., X1 is defined then the other variables X2-X3 are selected from the amino acids recited therein or when X2 is defined then X1-X6 are given different

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definitions. This is confusing in the lack of teachings in the specification as to how the random mutagenesis is controlled such as the picking and choosing is made. The language "an amino acid selected from the group" is an improper Markush language. It is suggested that the proper Markush language of "-selected from the group consisting of" be used.

B). Claim 2 is indefinite as to which definition of X1-X2 is being referenced to by the language "have the meanings stated in claim 1" since there are six different meanings in the base claim for X1-X6. Are all the variables define as either Lys or Arg?

C). Claims 3-5 recitation of "independently of one another" is unclear as to its intended meaning. For example, the different variables X1-X6 are already independently defined from one another. It is suggested that applicants delete this language as each of the variables are already independently defined from one another.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volz et al (Journal of Chromatography) in view of Haymore et al (EP 409,814) and Guerinot et al (5,846,821).

Volz et al defines a peptide fragment having the sequence as recited at page 34, fig. 2, compound (a), except the peptide fragment of Volz has Leu at X3 instead of Ile as recited. However, Guerinot discloses, col. 14, line 27 that families of residues such as Leu and Ile are conventionally conservatively substituted with one another. Ile is a known homolog of Leu. Further, as Haymore discloses at page 4, line 12 peptide fragments that are metal binding peptides, as the instant peptide fragments, the nature of the intervening residues is relatively unimportant. As Volz discloses the metal binding property of the peptide fragment, from ATPase, reside in the presence of the two His residues. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace Leu in the peptide fragment of Volz with a homologous amino acid, Ile with reasonable expectation that the binding property of the peptide fragment of Volz is maintained since Guerinot teaches that these residues are conservatively substituted with one another. And, in view of

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the teachings of Haymore that the intervening residues are relatively unimportant in the binding of peptide fragments to metals. One would be motivated to substitute or find a homolog of Leu that are known to function equivalently in a peptide, in the structure-activity study of peptide such that a peptide with improved properties is discovered.

Claims 5 and 6 are free of prior art. Claim 6 is allowable.

#### **REASSIGNMENT OF LOCATION**

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1639.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. D. Wessendorf whose telephone number is (703) 308-3967. The examiner can normally be reached on Flexitime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (703) 306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7924 for regular communications and (703) 308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

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*T.D.W*

T. D. Wessendorf  
Primary Examiner  
Art Unit 1639

*tdw*

December 16, 2002